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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,008	06/29/2001	Shinichi Hara	Q65241	5699

7590 12/19/2003  
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EXAMINER

HWU, DAVIS D

ART UNIT PAPER NUMBER

3752

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/894,008

Applicant(s)

HARA, SHINICHI

Examiner

Davis Hwu

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8-10, 13-17, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 18, 19, and 27-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10 6) ☐ Other:

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***Response to Amendment***

1. Applicant's request for reconsideration of December 02, 2003 is acknowledged and entered as paper number 11.
2. All of the appropriate 35 USC paragraphs can be found in the office action of September 2, 2003.
3. This case is being re-opened for prosecution in light of the newly found references. Applicant's remarks have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

4. Claims 8-10, 13-17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamst in view of Klosterman et al.

The patent to Gamst discloses a cleaning nozzle comprising:

- ejection nozzle portion having a minimum diameter portion d and a trumpet-shaped portion formed by a curved surface located upstream of the minimum diameter portion, an inclination angle of a tangent to the curved surface progressively decreasing toward the minimum diameter portion (see Figure 1);
- a gas ejection port formed along the curved surface and opened to an intermediate part of the trumpet-shaped portion (see Figure 1);
- a cleaning liquid ejection port formed inside of the gas ejection port (see Figure 1);

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- wherein a gas jet flow passing through a central part of the gas ejection port converges at a point upstream of the minimum diameter portion as recited in claim 9 (see Figure 1).

Gamst does not disclose the gas being ejected from the gas ejection port at a speed higher than that of the cleaning liquid. The patent to Klosterman et al. teaches a cleaning nozzle comprising a cleaning liquid ejection port and an air injection port in which air is ejected at a greater velocity than that of the water being ejected to produce small droplets (Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Gamst by providing air ejection at a higher velocity than that of the cleaning liquid as taught by Klosterman et al. to break up the cleaning liquid into droplets and to accelerate them. The use of a powder material as recited in claim 14 is a statement of intended use since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Regarding claim 15, the cleaning liquid droplets generated by the device of Gamst and Klosterman et al. is further accelerated downstream of the ejection ports before being ejected out from the cleaning nozzle since the droplets pass through the minimum diameter portion.

***Allowable Subject Matter***

5. Claims 11, 12, 18, 19, and 27-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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6. Claims 1-7 are allowed.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis Hwu whose telephone number is 703-305-1663. The examiner can normally be reached on M-F 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar can be reached on (703)308-2087. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.



Davis Hwu